

EXECUTIVE SUMMARY

PURPOSE

The CERCLA Compliance with Other Environmental Laws Manual has been developed to provide guidance to Remedial Project Managers (RPMs), State personnel at State-lead Superfund sites, On-Scene Coordinators (OSCs), and other persons responsible for planning response actions under §§104, 106, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The guidance is intended to assist in the selection of on-site remedial actions that meet the applicable, or relevant and appropriate requirements (ARARs) of the Resource Conservation and Recovery Act (RCRA), Clean Water Act (CWA), Safe Drinking Water Act (SDWA), Clean Air Act (CAA), and other Federal and State environmental laws, as required by CERCLA §121.¹

The manual has been developed for use by lead or support agencies for remedial actions. The lead agency may be either EPA or a State. For timely identification and to ensure compliance with ARARs, it is important to provide for early and continuous coordination between lead and support agencies throughout the remedy selection process.²

This manual will also be used by potentially responsible parties (PRPs) whenever they have the lead for identifying potential ARARs. In cases where potential ARARs are identified by the PRP, the actual ARARs will be decided by the lead agency. Further information concerning PRP involvement in the remedial investigation/feasibility study may be obtained from the "Interim Guidance on Potentially Responsible Party Participation in Remedial Investigations and Feasibility Studies." (April, 1988, OSWER Directive 9835.1A) or from the lead agency.

¹ This volume covers requirements of RCRA, CWA, SDWA and ground-water protection policies. Another volume under development (Volume 3) will add requirements under the Clean Air Act and other environmental statutes.

² Specific EPA and State roles will be specified either in a Superfund Memorandum of Agreement (SMOA) or Cooperative Agreement (CA). The SMOA is a procedural agreement that outlines cooperative efforts between States and EPA Regions and defines the roles and responsibilities of each party in the conduct of a Superfund program in a State. For more information, see Draft Guidance on Preparing a Superfund Memorandum of Agreement (SMOA) (OSWER #9375.0-01). A Cooperative Agreement is a contractual agreement between the EPA and a State, in which the EPA provides money from the Fund to a State to conduct remedial action in compliance with the NCP.

SCOPE

The requirements of §121 generally apply as a matter of law only to remedial actions. However, as a matter of policy, EPA will attain ARARs to the greatest extent practicable considering the exigencies of the situation at the site when carrying out removal actions. This manual may be used to assist OSCs in identifying potential ARARs for removal sites.

CERCLA §121 also requires on-site remedial actions to attain promulgated State ARARs that are more stringent than Federal ARARS. Specific issues related to identifying State ARARs will be addressed in a separate chapter at a later date.

Requirements for off-site actions are discussed to some extent in this manual. For a more detailed discussion of off-site requirements, the reader should consult "Revised Procedures for Planning and Implementing Off-Site Response Actions" (issued November 13, 1987, EPA Directive 9834.11).

CERCLA defines situations in which the use of ARARs may be waived in particular circumstances. Waivers are described in this manual. Further guidance on the use of waivers may be added at a later date.

The manual is intended to be used in conjunction with other EPA guidance documents, including the following:

- o Draft Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (May 1988, OSWER Directive 9335.3-01);
- o Superfund Public Health Evaluation Manual (October 1986, OSWER Directive 9285.4-1);
- o Draft Guidance on Preparing Superfund Decision Documents: The Proposed Plan and Record of Decision (March 1988, OSWER Directive 9355.3-02);
- o Draft Guidance on the Administrative Record for SARA Response Actions (November 1986, OSWER Directive 9833.1A);
- o Interim Guidance on Potentially Responsible Party Participation in Remedial Investigations and Feasibility Studies (April 1988, OSWER Directive 9835.1A); and
- o Draft Guidance on Remedial Actions for Contaminated Ground Water at Superfund sites. (No date, OSWER Directive 9283.1-02).

CONTENTS

Chapters 1 and 2 of the manual discuss the overall procedures for identifying ARARs and provide guidance on the interpretation and analysis of RCRA requirements. Chapter 1 defines "applicable" and "relevant and appropriate," provides matrices listing potential chemical-specific, location-specific, and action-specific requirements from RCRA, the Clean Water Act, and the Safe Drinking Water Act, and provides general procedures for identifying and analyzing requirements. Chapter 2 discusses special issues of interpretation and analysis involving RCRA requirements, and provides guidance on when RCRA requirements will be ARARs for CERCLA remedial actions. Chapter 3 provides guidance for compliance with Clean Water Act substantive (for on-site and off-site actions) and administrative (for off-site actions) requirements for direct discharges, indirect discharges, and dredge and fill activities. Chapter 4 provides guidance for compliance with requirements of the Safe Drinking Water Act that may be applicable or relevant and appropriate to CERCLA sites. Chapter 5 provides guidance on consistency with policies for ground-water protection. The manual also contains a hypothetical scenario illustrating how applicable or relevant and appropriate requirements are identified and used, and an appendix summarizing the provisions of RCRA, the CWA and SDWA.

KEY POINTS

Definition of ARARs

A requirement under other environmental laws may be either "applicable" or "relevant and appropriate," but not both. Identification of ARARs must be done on a site-specific basis and involves a two-part analysis: first, a determination whether a given requirement is applicable; then, if it is not applicable, a determination whether it is nevertheless both relevant and appropriate.

Applicable requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site.

Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site.

The determination that a requirement is relevant and appropriate is a two-step process: (1) determination if a requirement is relevant and (2) determination if a requirement is appropriate. In general, this involves

a comparison of a number of site-specific factors, including the characteristics of the remedial action, the hazardous substances present at the site, or the physical circumstances of the site, with those addressed in the statutory or regulatory requirement. In some cases, a requirement may be relevant, but not appropriate, given site-specific circumstances; such a requirement would not be ARAR for the site. In addition, there is more discretion in the determination of relevant and appropriate; it is possible for only part of a requirement to be considered relevant and appropriate in a given case. When the analysis results in a determination that a requirement is both relevant and appropriate, such a requirement must be complied with to the same degree as if it were applicable.

To-be-Considered Material (TBCs) are non-promulgated advisories or guidance issued by Federal or State government that are not legally binding and do not have the status of potential ARARs. However, as described below, in many circumstances TBCs will be considered along with ARARs as part of the site risk assessment and may be used in determining the necessary level of cleanup for protection of health or the environment.

Types of ARARs

There are several different types of requirements that CERCLA actions may have to comply with. The classification of ARARs below was developed to provide guidance on how to identify and comply with ARARs; however, some requirements may not fall neatly into this classification system.

- o Ambient or chemical-specific requirements are usually health- or risk-based numerical values or methodologies which, when applied to site-specific conditions, result in the establishment of numerical values. These values establish the acceptable amount or concentration of a chemical that may be found in, or discharged to, the ambient environment.
- o Performance, design, or other action-specific requirements are usually technology- or activity-based requirements or limitations on actions taken with respect to hazardous wastes.
- o Location-specific requirements are restrictions placed on the concentration of hazardous substances or the conduct of activities solely because they occur in special locations.

Developing Protective Remedies Using Risk Assessment, ARARs, and TBCs

CERCLA §121 requires selection of a remedial action that is protective of human health and the environment. EPA's approach to determining protectiveness involves risk assessment, considering both ARARs and to-be-considered materials (TBCs). The risk assessment includes consideration of site-specific factors such as types of hazardous substances present, potential for exposure, and presence of sensitive populations. Acceptable exposure levels are generally determined by applicable or relevant and appropriate

Federal and State environmental requirements, if available, and the following factors: (1) for systemic toxicants, concentration levels to which the human population (including sensitive subgroups) could be exposed on a daily basis without appreciable risk of significant adverse effects during a lifetime; (2) for known or suspected carcinogens, concentration levels that represent an excess upperbound lifetime cancer risk to an individual of between 10^{-4} and 10^{-7} ; (3) other factors related to exposure (such as multiple contaminants at a site or multiple exposure pathways) or to technical limitations (such as detection/quantification limits for contaminants). The Superfund Public Health Evaluation Manual provides guidance on determining acceptable levels.³

ARARs will define the cleanup goals when they set an acceptable level with respect to site-specific factors. For example, MCLs under the Safe Drinking Water Act are normally acceptable levels for specific contaminants. However, cleanup goals for some substances may have to be based on non-promulgated criteria and advisories (for example, health advisories such as reference doses (RfD)) rather than on ARARs because ARARs do not exist for those substances or because an ARAR alone would not be sufficiently protective in the given circumstances, e.g., where additive effects from several chemicals are involved. In these situations, the cleanup requirements, in order to meet the cleanup goals, will not be based on ARARs alone but also on TBCs. Similarly, State criteria, advisories, and guidance should also be considered for the State in which a site is located.

Using ARARs

Different ARARs that may apply to a site and its remedial action should be identified at multiple points in the remedy selection process. During the scoping of the RI/FS and the site characterization phase, the lists of potential ARARs in Exhibits 1-1, 1-2, and 1-9 and the appropriate Regional or State program office should be consulted to determine what ARARs may apply to the site. At this stage potential chemical- and location-specific ARARs should be identified. Exhibits 1-3 and 1-9 and the appropriate Regional or State program office should be consulted in identifying action-specific ARARs for each proposed alternative during the development of remedial alternatives in the Feasibility Study. During the detailed design the technical specifications must ensure attainment of ARARs.

When and Where Protectiveness Must Be Attained

ARARs (and TBCs necessary for protection) must be attained for hazardous substances, pollutants, or contaminants remaining on-site at the completion of the remedial action, unless waiver of an ARAR is justified. In addition, EPA intends that the implementation of remedial actions should also comply with ARARs (and TBCs as appropriate) to protect public health and the environment.

³ Superfund Public Health Evaluation Manual, OSWER Directive 9285.4-1, October, 1986.

ARARs (and TBCs necessary for protection), pertaining both to contaminant levels and to performance or design standards, should generally be attained at all points of potential exposure, or at the point specified by the ARAR itself. CERCLA requires, to the maximum extent practicable, the use of permanent solutions and alternative treatment technologies. Any waste left in place should either be brought to health-based levels or managed according to performance or design specifications. At sites where a TBC value is used to set a protective level of cleanup or where the ARAR does not specify the point of compliance, there is discretion to determine where the requirement shall be attained to ensure protectiveness. At each potential point of exposure, a reasonable maximum exposure scenario should be assumed, and cleanup goals set accordingly to ensure protectiveness, using best professional judgment. Restrictions on use or access should not be a substitute for remediation to appropriate protective health-based or design levels. If active measures are not practicable (or cost-effective), exposure to the waste must be controlled through legally enforceable institutional means. "Non-engineered" or "exposure" controls may be used in certain circumstances in combination with "engineered" controls and/or treatment in the management and cleanup of the site where it is determined that such controls are necessary to be protective. In such circumstances, where exposure controls are used, restrictions should be employed to ensure that the controls remain in place, that they remain protective, and that they are effective in preventing exposure to hazardous substances for as long as the substances at the site remain hazardous.

In ground water, cleanup goals should generally be attained throughout the contaminated plume, or at the edge of the waste management area when waste is left in place. However, if the waste is left on-site under a hybrid-type closure scenario (see p. 2-20 for discussion of hybrid closure), where the waste does not threaten ground water, the goal should be to reach health-based levels underneath the waste as well.

In surface water, cleanup goals should generally be attained at the point or points where the release enters the surface water. In air, cleanup goals should generally be achieved at the maximum exposed individual, considering the reasonably expected uses of the site and surrounding area. For soils, cleanup goals should generally be attained wherever direct contact might reasonably occur.

Compliance with Substantive and Administrative Requirements

CERCLA §121(e) exempts any response action conducted entirely on-site from having to obtain a Federal, State, or local permit, where the action is carried out in compliance with §121.

In general, on-site actions need comply only with the substantive aspect of ARARs, not with the corresponding administrative requirements. That is, permit applications and other administrative procedures, such as administrative reviews and reporting and recordkeeping requirements, are not considered ARARs for actions conducted entirely on-site. However, the

Feasibility Study, the Proposed Plan, the Record of Decision, the Community Relations Plan, and the Administrative Record should demonstrate full compliance with all substantive requirements that are ARARs, unless a waiver is used.

Off-site actions must comply with all legally applicable requirements, both substantive and administrative. The concept of "relevant and appropriate" is not available for off-site actions.

Coordination/Consultation With Other Federal and State Programs

Sources of potential ARARs include other Federal environmental laws administered by EPA and authorized States and by other Federal agencies, and more stringent State environmental or facility siting laws. Therefore, to ensure that remedies comply with substantive aspects of identified ARARs, other Federal and State program offices should be consulted as appropriate, particularly for on-site actions where no permit will be obtained.

RCRA Requirements

Prerequisites for Applicability of RCRA Hazardous Waste Management Regulations

RCRA requirements for treatment, storage, or disposal of hazardous wastes apply to a Superfund site if the site contains RCRA listed or characteristic hazardous waste that was treated or disposed of after the effective date of the RCRA regulations that are under consideration as potential ARARs for the site, or if the CERCLA activity at the site constitutes current treatment, storage, or disposal of RCRA hazardous waste. In some cases, it may not be possible to determine whether a CERCLA hazardous substance at a site is a hazardous waste under RCRA, or whether it was disposed at the site after the effective date; these prerequisites should not be assumed. In such cases, RCRA requirements will not be applicable, but may nevertheless be relevant and appropriate, if the CERCLA action involves treatment, storage, or disposal and if the wastes are similar or identical to RCRA hazardous waste.

Definition of Disposal

EPA has concluded that moving RCRA hazardous waste (including hazardous waste that was originally disposed before the requirements' effective date) constitutes land disposal when that waste is placed into a land disposal unit. At CERCLA sites, there are areas of contamination with differing levels of concentration of hazardous substances, pollutants, or contaminants. In such cases, when RCRA hazardous waste is moved into an area of contamination, RCRA disposal requirements (such as for closure) are applicable to the area where the waste is received. In addition, EPA has determined that disposal and placement are synonymous for purposes of determining the applicability of the land disposal restrictions under RCRA.

Corrective Action

RCRA contains several authorities under which corrective action requirements will be promulgated.⁴ Because of the similarity of corrective action under RCRA to CERCLA cleanup, these requirements are likely to be applicable or relevant and appropriate in many remedial action situations. This manual will be updated to include RCRA corrective action requirements and their bearing on CERCLA remedial activities.

Ground-water Protection

RCRA currently contains ground-water monitoring and protection standards. In general, EPA will use MCLs as protection levels for ground water that is currently or potentially used for drinking. The Agency may establish site-specific exposure-based ACLs at particular sites where the ground water cannot be used for drinking because of high salinity or naturally occurring widespread contamination, or where cleanup is not practicable or cost-effective and where the circumstances fulfill the conditions of CERCLA §121(d)(B)(ii).

The Superfund Program's goal is to restore ground water to its beneficial uses based in large part on their vulnerability, use, and value. The Ground-Water Protection Strategy and draft Office of Ground-Water Protection Classification Guidelines serve as useful guidance. The program uses the classification scheme on a site-specific basis to assist in the characterization of a ground water's vulnerability, use, and value. Ground-water classifications performed at Superfund sites are limited in scope to the Superfund action that will be taken and do not apply to the geographical area in general. More stringent promulgated State requirements will be used as standards when they exist. Additional guidance on Clean Water Act, Safe Drinking Water Act, and other water-related requirements is presented in Chapters 3, 4, and 5 of this manual.

Clean Water Act Requirements

Direct Discharge to Surface Waters

Both on-site and off-site direct discharges from CERCLA sites to surface waters are required to meet the substantive requirements of the National Pollutant Discharge Elimination System (NPDES) program. These substantive requirements include discharge limitations (both technology and water quality based), certain monitoring requirements, and best management practices. These requirements will be contained in an NPDES permit for off-site CERCLA

⁴ Corrective action requirements for regulated units have been promulgated in 40 CFR Part 264, Subpart F. Additional requirements for corrective action for solid waste management units (SWMUs) at RCRA facilities seeking permits are currently being developed for promulgation in 40 CFR Part 264 Subpart S.

discharges. For on-site direct discharges from a CERCLA site, these substantive requirements must be identified and complied with even though on-site discharges are not required to have an NPDES permit. For purposes of this guidance, a direct discharge of CERCLA wastewaters would be "on-site" if the receiving water body is in the area of contamination or is in very close proximity to the site and necessary for implementation of the response action (even if the water body flows off-site).

Indirect Discharge to POTWs

In general, the discharge of CERCLA wastewaters to publicly owned treatment works (POTWs) is considered an off-site activity. Therefore, CERCLA responses are required to comply with all applicable (both substantive and administrative) requirements of the national pretreatment program including the general and specific discharge prohibitions. Further, all local pretreatment regulations must be complied with before discharging wastewater to a POTW. These local pretreatment regulations include local discharge limitations and prohibitions. When considering discharge of CERCLA wastewater to a POTW, the POTW's record of compliance with the NPDES permit and pretreatment program requirements should be assessed.

Discharge of Dredged or Fill Material

Under CERCLA §121(e), no Federal, State, or local permit is required for response actions conducted entirely on-site; however, consultation with the Corps remains important in developing the CERCLA response. Under the CWA §404 guidelines, no discharge of dredged or fill material will be allowed unless appropriate and practicable steps are taken that minimize potential adverse impacts of the discharge on the aquatic ecosystem.

Safe Drinking Water Act Requirements

Use of MCLs

For cleaning up ground water or surface water that is or may be used for drinking, the Maximum Contaminant Levels (MCLs) set under the Safe Drinking Water Act are generally the applicable or relevant and appropriate standard. MCLs are applicable where the water will be provided directly to 25 or more people or will be supplied to 15 or more service connections. When MCLs are applicable, they should at least be met at the tap. MCLs are relevant and appropriate in other cases where surface water or ground water is or may be directly used for drinking water, and in such cases, the MCLs should be met in the surface water or groundwater itself.

Use of MCLGs

A standard for drinking water more stringent than an MCL may be needed in special circumstances, such as where multiple contaminants in groundwater or multiple pathways of exposure present extraordinary risks (i.e., individual lifetime cancer risk above 10^{-4}). In setting a level more stringent than the

MCL in such cases, a site-specific determination should be made by considering Maximum Contaminant Level Goals (MCLGs), the Agency's policy on the use of appropriate risk ranges for carcinogens, levels of quantification, and other pertinent guidelines. Prior consultation with Headquarters contacts in the Office of Emergency and Remedial Response or the Office of Waste Programs Enforcement, as appropriate, is encouraged in such cases.

Underground Injection Control Program

CERCLA sites where underground injection wells are constructed on-site are not required to comply with the administrative requirements of the UIC program. However, they must meet the substantive requirements that are determined to be applicable or relevant and appropriate to the CERCLA remedial action. Examples of substantive UIC program requirements include RCRA manifest and corrective action requirements for the underground injection of hazardous wastes, well construction requirements, well operating requirements, and well closure requirements. Other information should also be reported to the Region UIC program regarding the operation of an injection well. (This information is described in Chapter 4).